

FIG. 1

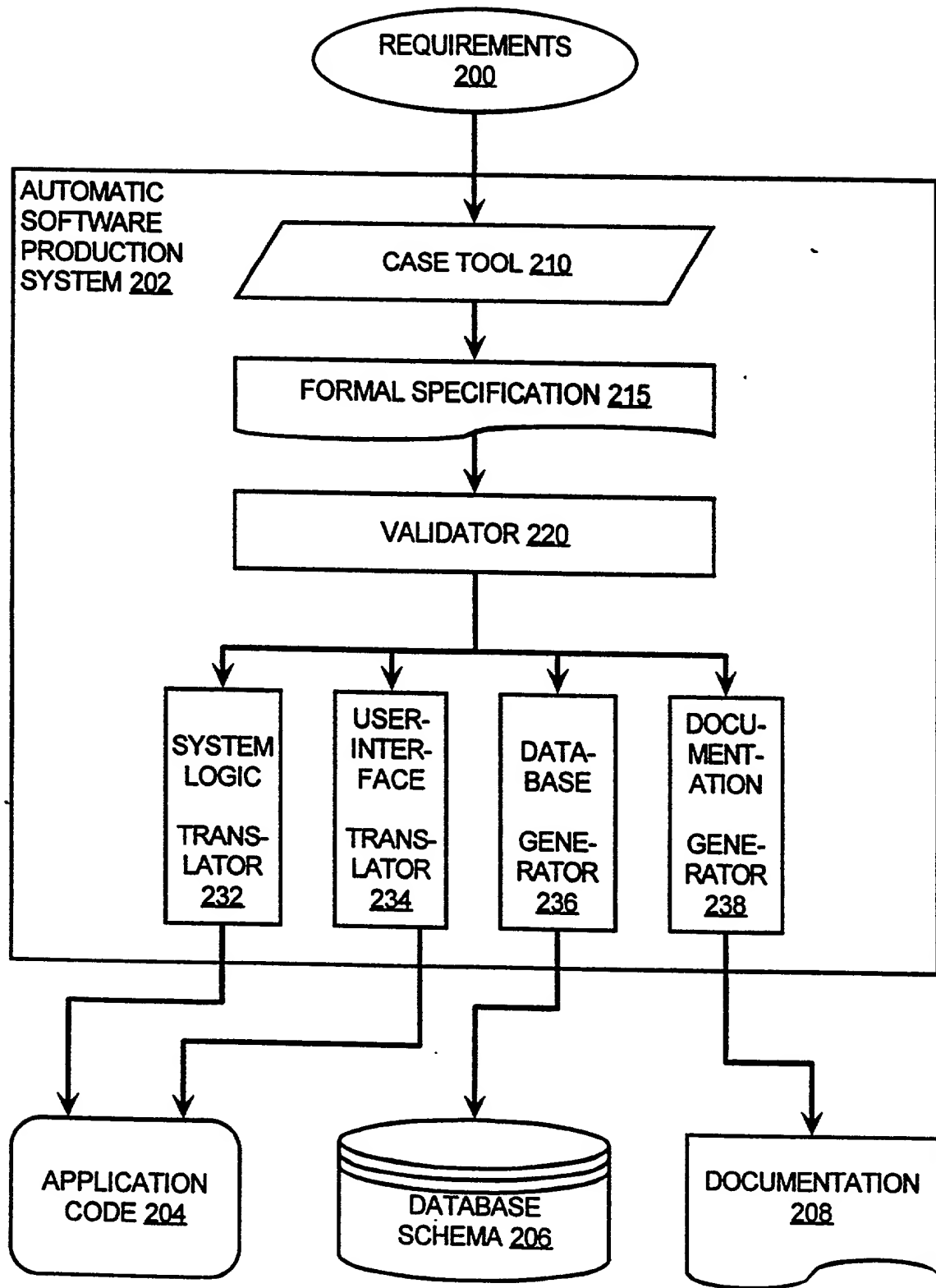


FIG. 2

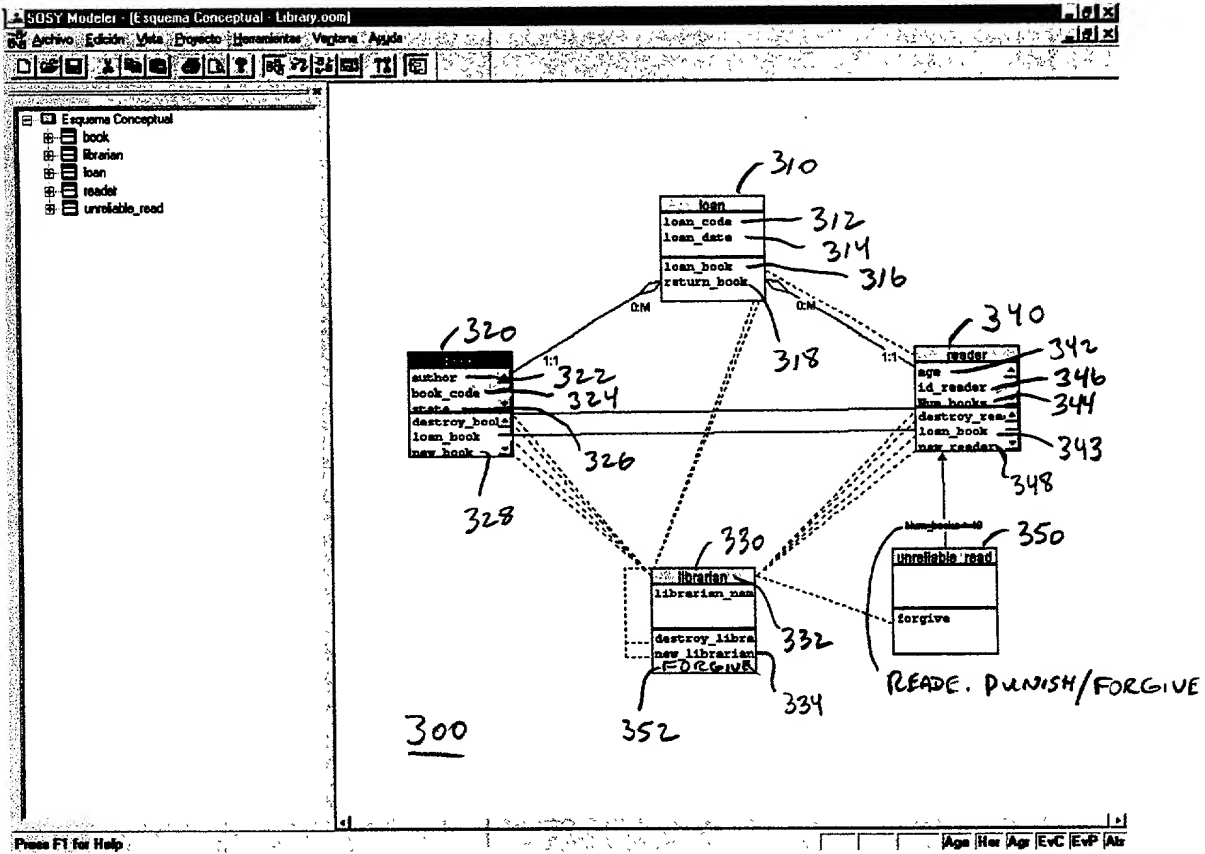


FIG. 3

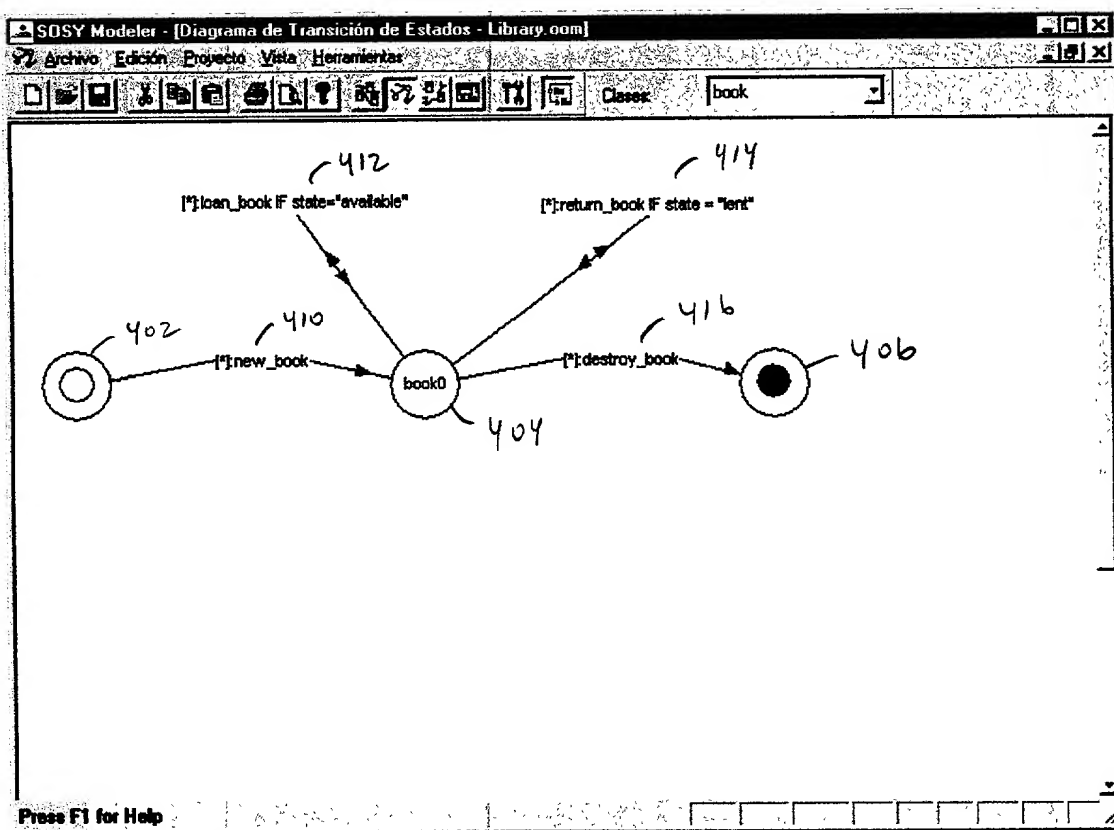


FIG. 4A

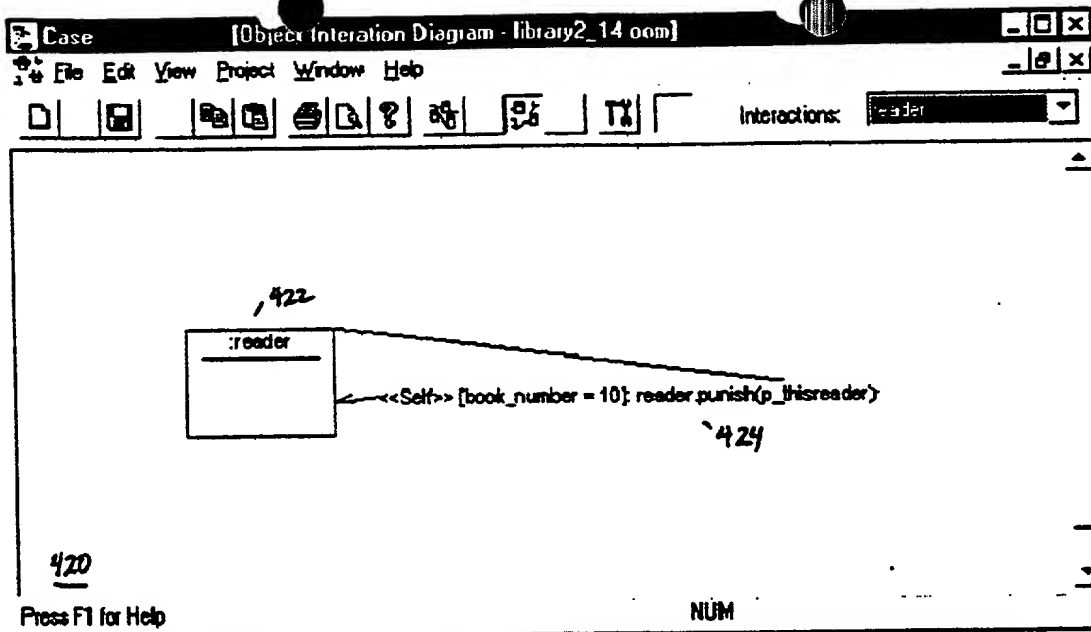


FIG. 4B

Functional Model

Class: reader Attribute: book_number

Event: loan_book Effect: 1 Condition:

return_book 1

Category

☒ Purpose ☐ State-independent ☐ Discrete-domain

Valuation Details

Event: loan_book Action type: Increment

Valuation condition:

Effect of the event:

1

FIG. 5

FLOWCHART OF THE FUNCTIONS THAT ALL SPECIES OF SYSTEM LOGIC TRANSLATORS WILL PERFORM

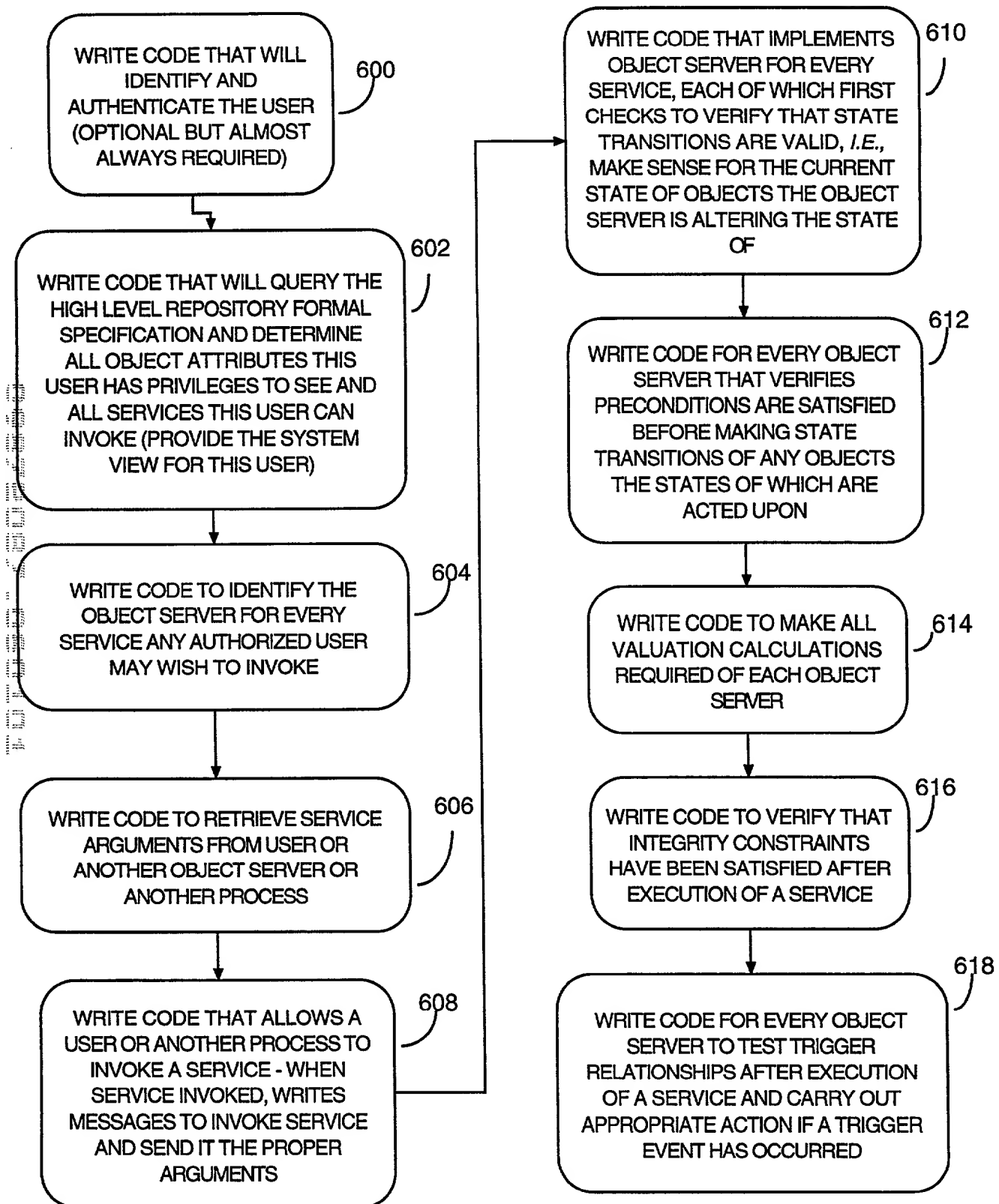


FIG. 6

FLOWCHART OF THE FUNCTIONS THAT ALL SPECIES IN THE USER INTERFACE
TRANSLATOR SUBGENUS WILL PERFORM

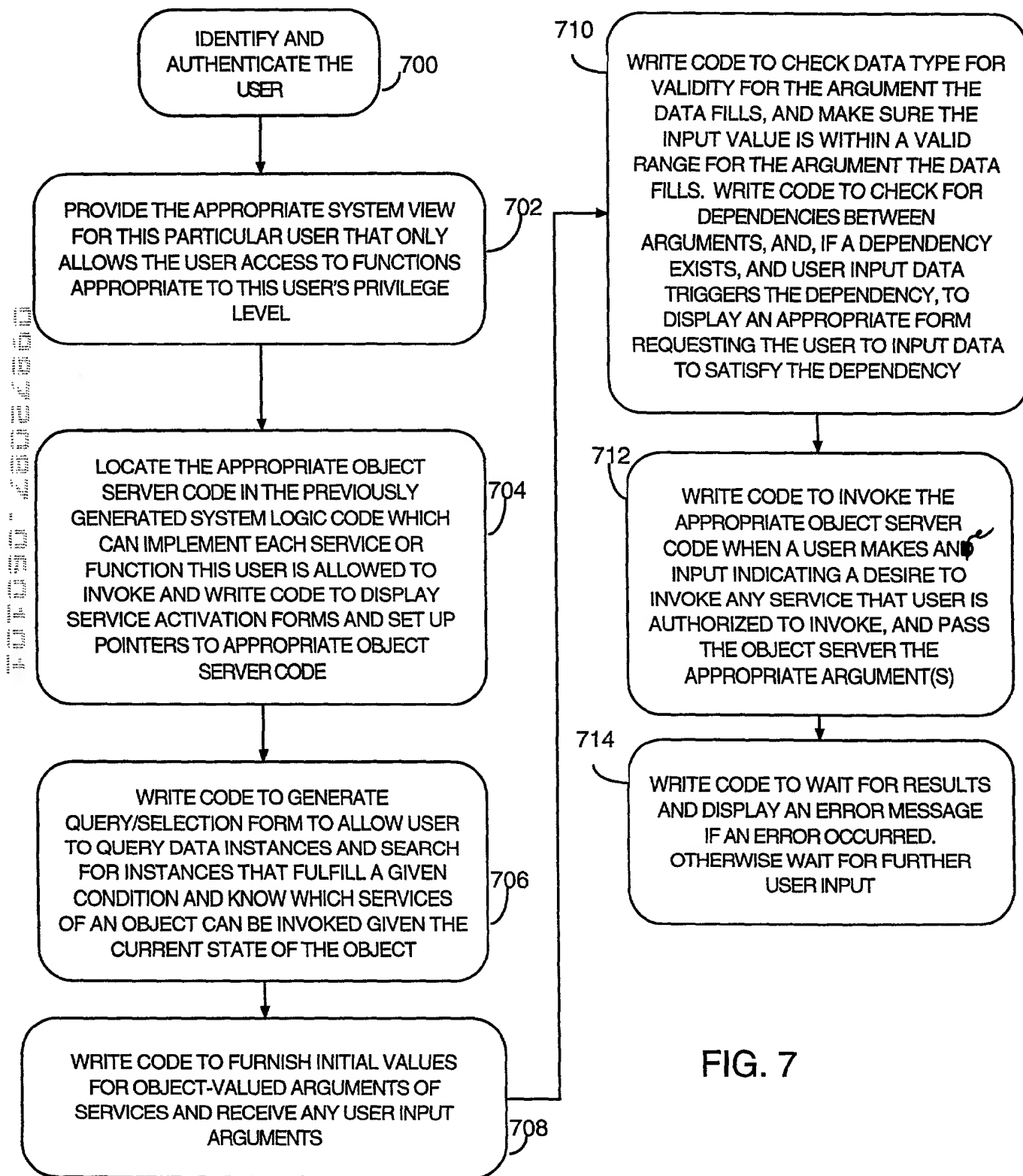


FIG. 7

FLOWCHART OF THE FUNCTIONS THAT ALL SPECIES IN THE DATABASE GENERATOR
TRANSLATOR SUBGENUS WILL PERFORM

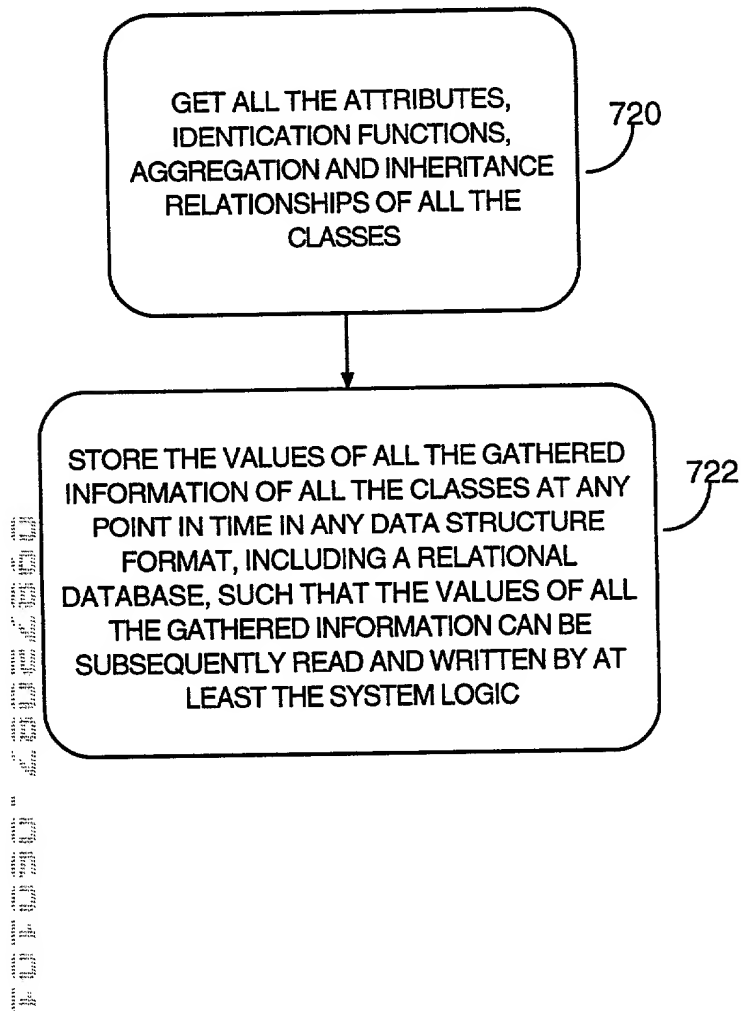
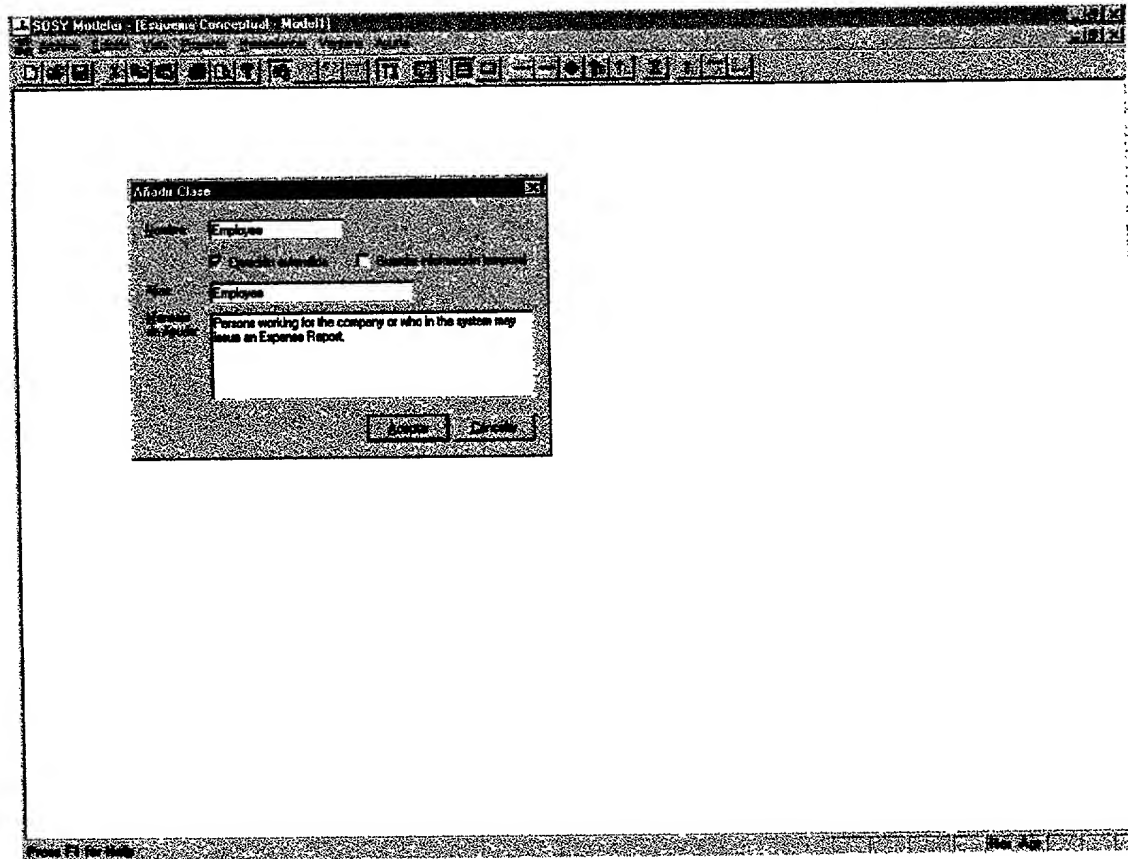
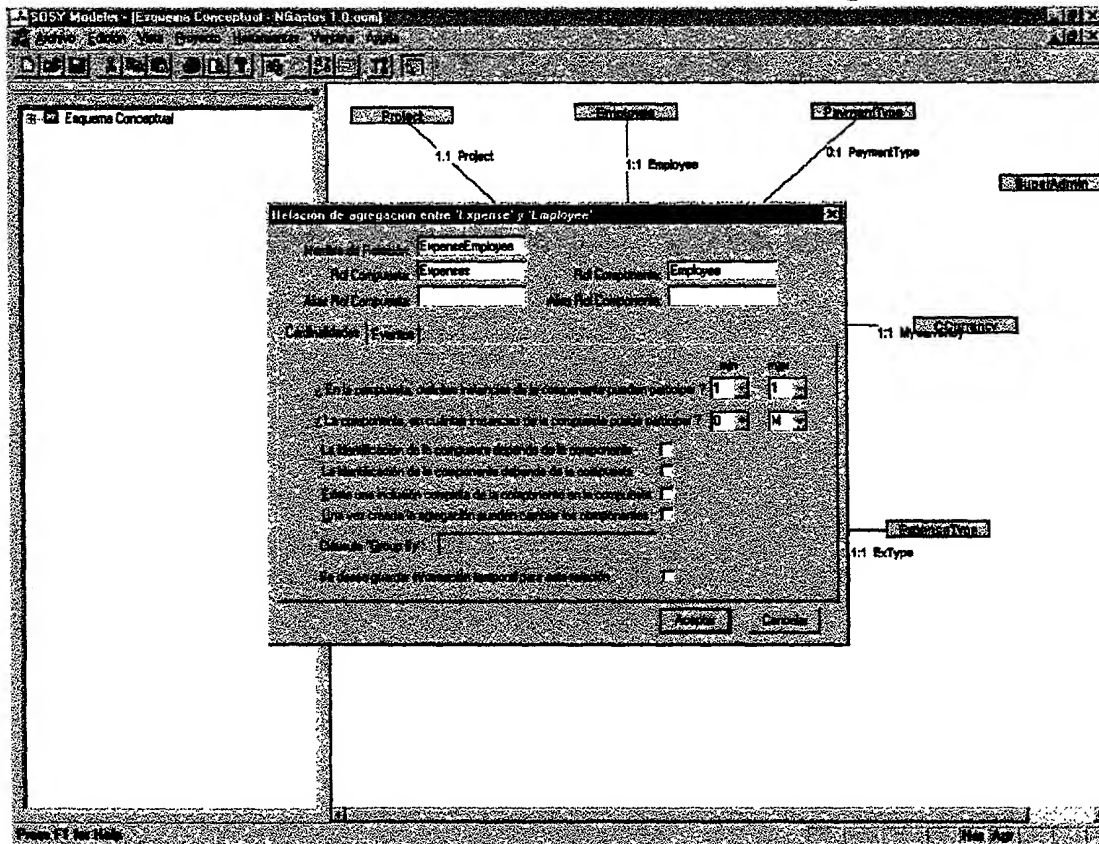


FIG. 8



class creation dialog

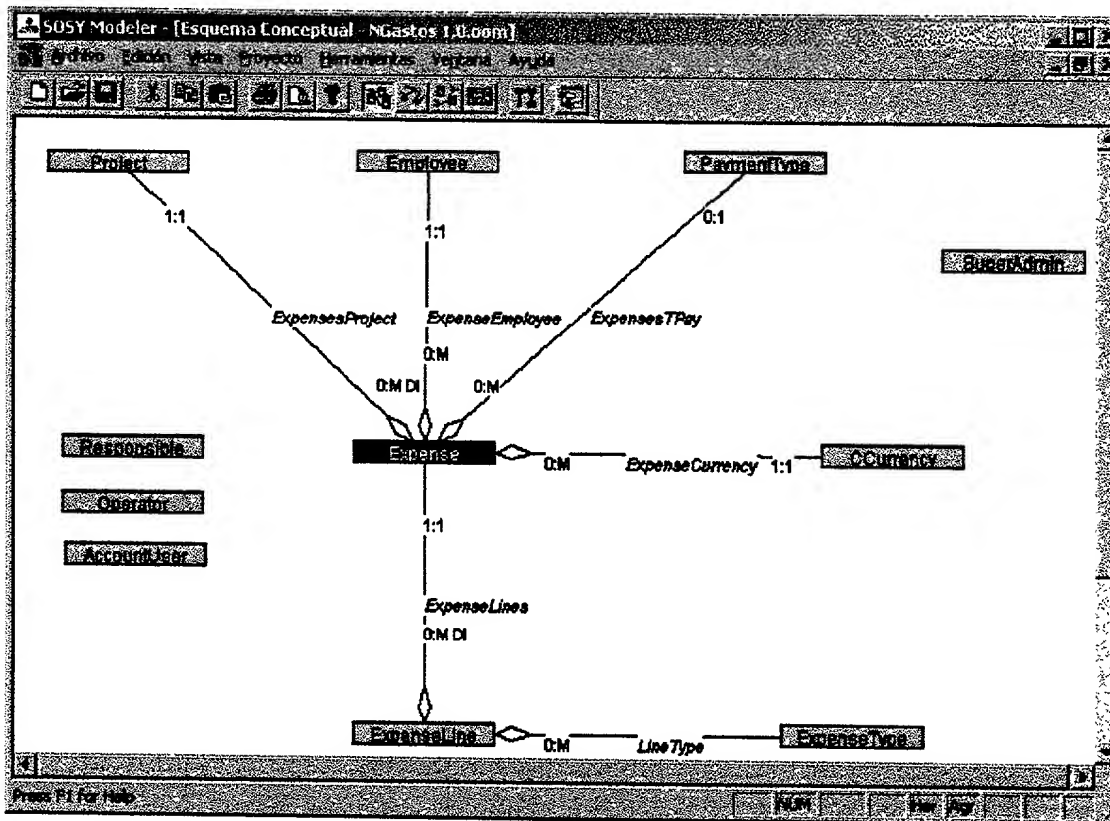
FIG. 9A



dialog to create and modify relationships between classes

FIG. 90

figure shows relationships found with all their properties indicated.



GRAPHIC DIALOG TO CREATE
RELATIONSHIPS BETWEEN CLASSES
AND GRAPHICALLY SHOW THE
RELATIONSHIPS SO CREATED

FIG. 10

Clase: **Expense**

Atributos | Servicios | Derivaciones | Restricciones | Agentes | Transacciones | Relaciones | Generalidades

Atributo:

Nombre	Tipo atributo	Tipo dato	Id	Tamaño	Valor default	Padre al crear	Nulo
PresentDate	Constante	Date			today()	Si	No
Status	Variable	Int			0	No	No
Cause	Variable	String	255			Si	No
AuthoDate	Variable	Date			NULL	No	Si
AuthoComments	Variable	String	255		NULL	No	Si
PaymentDate	Variable	Date			NULL	No	Si
PayComments	Variable	String	255			No	Si
TotExpenses	Derivado	Real					
TotExpensesCur	Derivado	Real					
Advances	Variable	Real			0	Si	No
AdvancesCur	Derivado	Real					
Exchange	Variable	Real				No	Si
Balance	Derivado	Real					

Nombre: Tipo Atributo: Tipo Dato:

☐ Información Temporal

Alias:

Observaciones:

Clase: **Expense**

Aceptar Cancelar

(A)

Clase: **Expense**

Atributos | Servicios | Derivaciones | Restricciones | Agentes | Transacciones | Relaciones | Generalidades

Atributo:

Balance

Fórmulas de Derivación

Condición	Fórmula
	TotExpenses - Advances

Condición:

Fórmula:

Observaciones:

Clase: **Expense**

Aceptar Cancelar

(B)

FIG. 11

Class

Attributes Services Restrictions Agencies Transactions Relations Generalidades

Services

Nombre	Características
newexpense	New
deleteexpense	Destroy
close	
authorize	
approve	
pay	
rejectautho	
rejectpayment	
InPaymentType	Shared with PaymentType
OutPaymentType	Shared with PaymentType
DELETEALL	Tran
TPAY	Tran

Permissions

Nombre	Tipos de datos
p_thisExpense	Expense
p_Cause	String
p_Advances	Real
p_Exchange	Real

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Buttons:

Next figure shows the formula for the "DELETEALL" transaction:

The screenshot shows a software window titled "Clase" with a tabbed interface. The "Transacciones" tab is selected, showing a transaction named "DELETEALL". The "Formula" field contains the text: "FOR ALL Lines DO Lines.deleteLine(Lines). deleteExpense(THIS)". Below the formula field, there are several input fields: "Acción" (set to "Expense"), "Agencia" (empty), "Servicio" (set to "approve"), "Proyecto" (set to "p_thisExpense"), and "Iniciador" (empty). There is a checkbox labeled "Crear Parametro en la Transacción" which is unchecked. On the right side, there are three radio buttons labeled "ap", "apd", and "apdn", with "ap" selected. At the bottom, there is a "Clase" dropdown menu set to "Expense" and "Aceptar" and "Cancelar" buttons.

DIALOG TO DEFINE FORMULA FOR "DELETEALL"
TRANSACTION
FIG. 13

Class

Albitos | Servicios | Definiciones | Restricciones | Agentes | Transacciones | Relaciones | Generalidades

Definición

Exchange > 0

1 2

Forma: Exchange > 0

Mensaje De Error: Exchange must be greater than zero

Definición

1 2

Oper. Temporal Condición Oper. Temporal Condición

Forma:

Mensaje De Error:

Class: Expense

Aplicar Cancelar

INTEGRITY CONSTRAINTS OF EXPENSE CLASS
FIG. 14

The value of the attribute "Cause" will be loaded with the value of the argument "p_Cause" of the event "modify" when "modify" was executed.

Modelo Funcional

Clase: Atributo:

Evento	Efecto	Condición
modify	p_Cause	

☐ Cardinal
 ☒ De Estado
 ☐ De Situación

Detalles de Evaluación

Evento:

☐ Inferir para el resto de atributos

Condición de evaluación: IF:

Efecto del evento:

Buttons: Aceptar, Cancelar, Añadir, Modificar, Borrar

DIALOG BOX TO CREATE EVALUATION OF
 "CAUSE" ATTRIBUTE WITH THE
 "MODIFY" EVENT TO FORM PART OF
 FUNCTIONAL MODEL
 FIG. 15

Clase

Clase provisorio:

Servicios

Servicio
newexpense
modify
close
authorize
rejectautho
DELETEALL

Clase AccountUser agente de:

Servicio	Temporalidad
Expense.approve	No
Expense.rejectpayment	No
Expense.TPAY	No

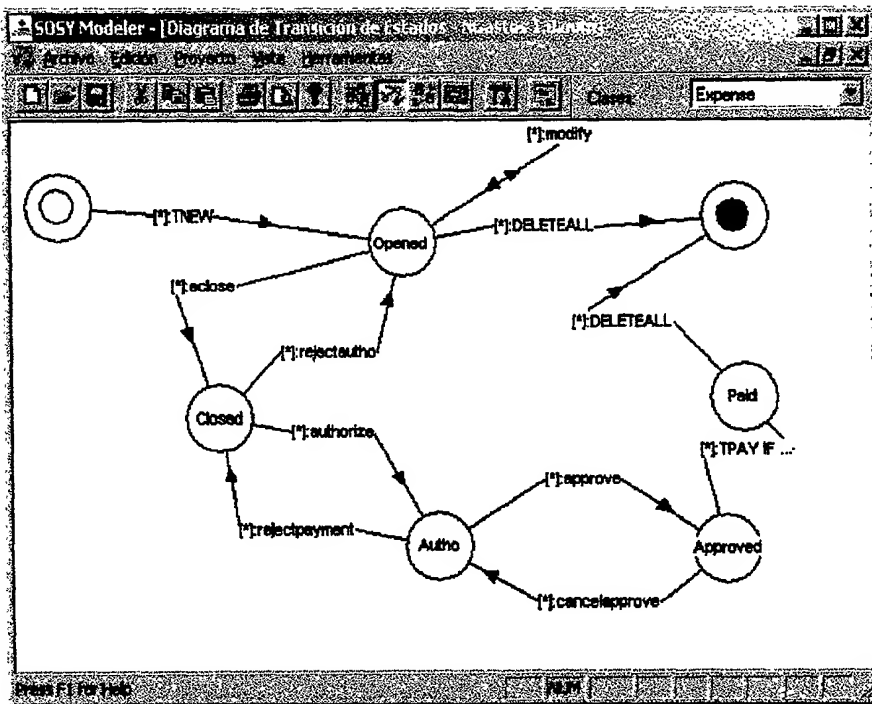
Clase AccountUser tiene visibilidad sobre:

Atributos
Expense.Id_Expense
Expense.PresentDate
Expense.Status
Expense.PaymentDate
Expense.PayComments
Expense.AuthoDate
Expense.TotalExpenses
Expense.TotalExpensesCur
Expense.Advances

Clase:

AGENT RELATIONSHIP DIALOG THAT CAN BE
 USED TO SET WHICH SERVICES "ACCOUNTUSER"
 CAN ACCESS AND VISIBILITY OF CLASS
 ATTRIBUTES FOR THIS USER

FIG. 16



STATE TRANSITION DIAGRAM FOR CLASS "EXPENSE"

FIG. 17

According to last paragraph of Procedure, if the Advances are greater than total expenses, the system must force the confirmation of the account user. It is expressed as a precondition in the "TPAY" transaction. Next figure shows it.

The image shows a software dialog box titled "Transición". It contains several fields and sections:

- Origen:** A dropdown menu with "Approved" selected.
- Destino:** A dropdown menu with "Paid" selected.
- Buttons:** "Aceptar" (Accept) and "Cancelar" (Cancel) buttons are located in the top right corner.
- Detalles:** A section containing:
 - Account:** A dropdown menu with "SuperAdmin" selected.
 - Service:** A dropdown menu with "TPAY" selected.
 - Precondición:** A text area containing the logical expression: `Balance > 0 OR ps_ReturnAdvance = TRUE`.
 - Condición de control:** An empty text area.
 - Mensaje en caso de Error:** A text area containing the message: "Check the advanced money excess".

DIALOG BOX TO MODEL PRECONDITION

FIG. 18

Conjunto de Visualización

Nombre:

Atributos a visualizar:

Atributo	Tipo dato
Project.ProjectName	String
Employee.EmpName	String
Employee.EmpSur...	String
Status	Int
AuthoDate	Date
PaymentDate	Date
TotExpenses	Real
Balance	Real

Atributos:

Atributo	Tipo dato
Cause	String
AuthoDate	Date
AuthoComments	String
PaymentDate	Date
PayComments	String
TotExpenses	Real
TotExpensesCur	Real
Advances	Real
AdvancesCur	Real
Exchange	Real
Balance	Real
BalanceCur	Real

Clase: Expense

DIALOG BOX USED BY SOSY MODELER
TO ESTABLISH A SET OF ATTRIBUTES
TO BE DISPLAYED FOR THE "EXPENSE" CLASS

FIG. 19

Filtro

Filtro: Alias:

Fórmula:

Observ:

Variables

Nombre	Alias	Tipo dato	Tipo estilo	Estilo	
vf_Project	Project	Project	Sel. Población		Nueva
vf_Employee	Employee	Employee	Sel. Población		Modificar
vf_DateIniIssue	Initial Issuing Date	Date			Borrar
vf_DateEndIssue	Final Issuing Date	Date			
vf_DateIniApp	Initial Approving D...	Date			

Tipo: ☒ Simple ☐ Objeto-valorado

Nombre: Estilo de inicial:

Alias: Estilo de selección:

Tipo de dato:

Clase:

DIALOG BOX USED BY SOSY MODELER
TO ESTABLISH THE SEARCHING CRITERIA
FOR THE EXPENSE CLASS AND TO ESTABLISH
THE FILTER FORMULA ^{TO USE} AND THE VARIABLES
TO REQUEST THE USER TO ENTER

FIG. 20

FLOWCHART OF THE FUNCTIONS THAT ALL SPECIES IN THE DOCUMENTATION
GENERATOR TRANSLATOR SUBGENUS WILL PERFORM

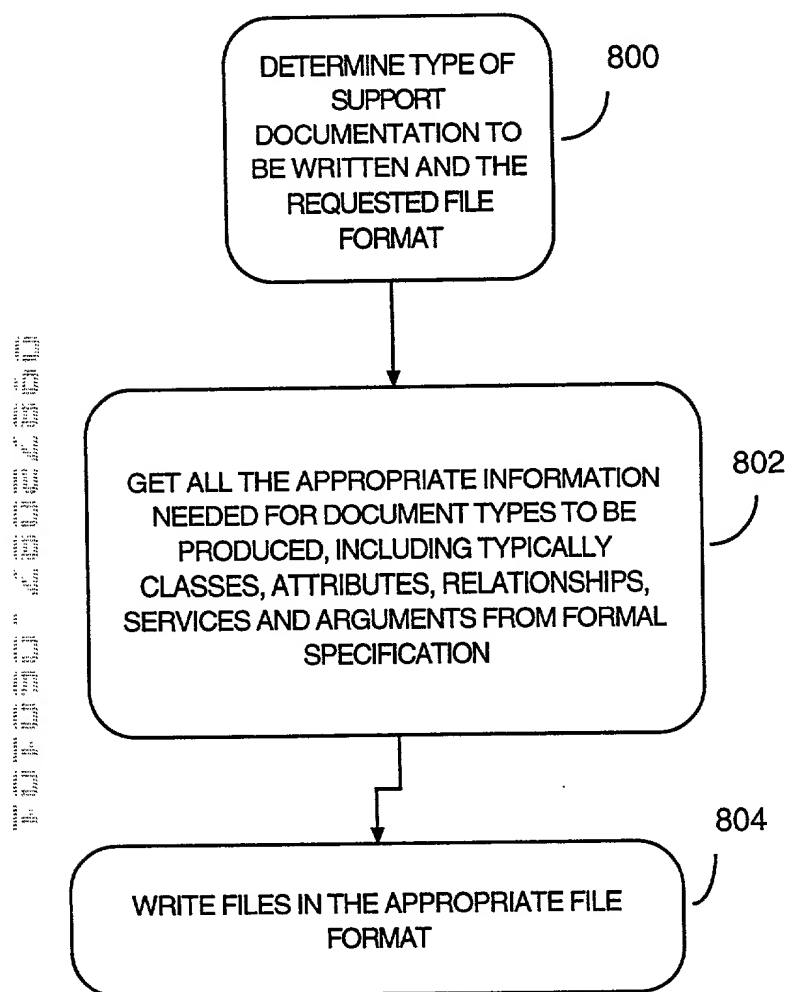


FIG. 21

